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| 10/726,724 | 12/03/2003 | James E. Hanson | YOR920030538US1 | 6343 |
| 29683 7590 12/10/2007 HARRINGTON & SMITH, PC 4 RESEARCH DRIVE SHELTON, CT 06484-6212 | | | EXAMINER FRINK, JOHN MOORE | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|-------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/726,724 | Applicant(s) HANSON ET AL. | |
| | Examiner John M. Frink | Art Unit 2142 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 7, 15, 21, 23, 24, 26, 40, 42 and 43 rejected under 35 U.S.C. 102(a) as being anticipated by Kennedy et al. (US 2004/0218582 A1), hereafter Kennedy.

3. Regarding claim 1, Kennedy shows in a data processing system (Abstract; for example, where the data processed is routes and/or network transmissions), a method to automatically tune a topology of relationships between a plurality of self-organizing software agents, comprising: operating a topology tuner agent ([45-47, 115]) to obtain information including inter-agent relationship that is descriptive of the topology (Fig. 3, [39-40,42,51,114-115]),

establishing a topology to address at least on criterion ([38-40,45-47,93-101], where criterion includes quality of service, node density, stability, etc.)

based at least in part on the obtained information and on the topology of said at least one criterion, said topology tuning agent making at least one recommendation to at least one of the plurality of agents that is intended to modify the topology to more closely match the topology of said criterion ([33-36,45-47,115,166-170]).

4. Regarding claim 23, Kennedy shows a topology tuner software agent operable in a data processing system that comprises a plurality of self-organizing software agents (Abstract, Figs. 1 and 3, [0001-0004]), comprising computer program code for obtaining information that is descriptive of a topology of relationships between the self-organizing software agents from at least one of a system registry function and from the self-organizing software agents themselves ([0021, 0039-0042, 0051]); and computer program code, responsive to the obtained information and a topology corresponding to at least one criterion, for making at least one recommendation to at least one of the plurality of self-organizing software agents that is intended to modify the topology closer to the topology corresponding to the at least one criterion ([0033-0038, 0045-0047]).

5. Regarding claims 5 and 24, Kennedy shows where obtaining information is performed on a periodic basis by said topology tuner agent to update the state of the topology ([0141-0144, 0146-0158, 0166-0167]), and where the topology tuner agent makes the at least one recommendation when some topology threshold condition is satisfied (0187, 01910196, 0203, 0211, 0215, 0228)).

6. Regarding claims 7 and 26, Kennedy shows where the at least one criterion comprises a vulnerability of the topology to a failure of one or more of the agents ([0216, 0217, 0225]).

7. Regarding claim 15, Kennedy shows where making at least one recommendation is performed by a topology tuner agent using a multi-cast technique to simultaneously contact a number of the agents ([0034,0038,0217,0221]).

8. Regarding claim 21, Kennedy shows where obtaining information and making at least one recommendation are performed by an entity ([0033-0038,0044-0047]) in an environment ([0024]) that hosts the plurality of agents (Fig. 1).

9. Regarding claim 40, Kennedy further shows where said computer program code is stored on a computer readable medium ([0021]).

10. Regarding claim 42, Kennedy shows a data processing system comprising a plurality of self-organizing software agents configurable for autonomously establishing relationships between themselves (Abstract, [0001-0004]), where the totality of the relationships can be represented by a topological structure having nodes that each comprise one of the plurality of software agents and links between the nodes that comprise the established relationships ([0141-0144, 0146 – 0158, 0166-0167]), data establishing a topology to address at least one criterion ([38-40,45-47, 93-101], criterion including, for example, quality of service, node density, stability, etc.); a topology tuning function that obtains information that is descriptive of the topology including inter-agent relationships and, based at least in part on the obtained information and on at least one criterion, that makes a recommendation to at least one of the plurality of software agents that is intended to modify the topology to more closely match the at least one criterion ([0033-00368,0045-0048]).

11. Regarding claim 43, Kennedy shows where topology tuning function is performed by a topology tuner software agent (Abstract, Figs. 1 and 3, [0021, 0033-0038, 0045-0047]).

12. Claims 2, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Assa (US 2004/0059812 A1).

13. Regarding claim 2, Kennedy shows claim 1.

Kennedy does not show where the step of obtaining information is performed by a topology tuner agent by querying a system registry to determine identities of individual ones of the plurality of agents.

Assa shows where the step of obtaining information is performed by a topology tuner agent that by querying a system registry to determine identities of individual ones of the plurality of agents ([0061-0066,0078-0079,0090]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Assa in order to utilize an improved topology information system (Assa, Abstract).

14. Regarding claim 3, Kennedy in view of Assa further show where the step of obtaining information is performed by said topology tuner agent by querying individual ones of the plurality of agents to determine to which other agent or agents the individual one of the plurality of agents currently has a relationship (Assa, [0082,0092-0096,0202-0203]).

15. Regarding claim 4, Kennedy in view of Assa further show where the step of obtaining information is performed by said topology tuner agent by querying a system registry to determine to which other agent or agents that individual ones of the plurality of agents currently have a relationship (Assa, Figs. 3 – 5, [0061-0066,0078-0079,0090]).

16. Claims 6 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Swiler et al. (US 7,013,395 B1), hereafter Swiler.

17. Regarding claims 6 and 25, Kennedy shows claims 1 and 23.

Kennedy does not show where the at least one criterion comprises a vulnerability of the topology to an attack directed to one or more of the agents

Swiler shows where the at least one criterion comprises a vulnerability of the topology to an attack directed to one or more of the agents (col. 3 lines 10 – 15, col.3 lines 25 – 33).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Swiler in order to provide for a method of assessing security attributes system vulnerabilities (Swiler, Abstract), which are important attributes in keeping a network operationally stable.

18. Claims 9, 10, 28, 29 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Swiler et al. (US 7,013,395 B1), hereafter Swiler, further in view of Bettstetter (On the Minimum Node Degree and Connectivity of a Wireless Multihop Network).

Regarding claims 9 and 28, Kennedy shows claim 1.

Kennedy does not show where the at least one criterion comprises a vulnerability of the topology to an attack directed to one or more of the agents.

Swiler shows where the at least one criterion comprises a vulnerability of the topology to an attack directed to one or more of the agents (Swiler, col. 3 lines 10 – 15, col.3 lines 25 – 33).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Swiler in order to provide for a method of assessing security attributes system vulnerabilities (Swiler, Abstract), which are important attributes in keeping a network operationally stable.

Kennedy focuses on discovering new routes and discovering new agents, along with making recommendations to improve the network, but makes no mention of constraining new agents with which relationships can be formed. Swiler, as noted above, does address system vulnerabilities, but not constraining new relationship choices.

Given that there are only two possible methods for agents to behave regarding how to manage new relationships, it would have been obvious to one of ordinary skill in the art at the time of the invention try both choices, thus enabling choosing either limiting relationship choices or not limiting relationship choices.

Therefore, Kennedy in view of Swiler disclose where the at least one recommendation does not constrain the set of potential agents that an agent may select from to form a new relationship or relationships.

Kennedy in view of Swiler do not show where the topology then evolves towards a Gaussian type distribution.

Bettstetter shows evolving toward a Gaussian type distribution (Abstract, pg. 81, col. 2 P2) and discloses that a Gaussian/uniform random distribution is desirable to avoid isolated nodes and to have a connected and thus reliable network (pg. 81, col.2 P2; pg. 82 col. 1 Section 4.1; pg. 83 col. 2 Section 4.2; Section 5.1; Section 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy in view of Swiler with that Bettstetter to help ensure the creation of an optimal topology (Bettstetter, Abstract).

19. Regarding claims 10 and 29, Kennedy in view of Swiler further show where the at least one criterion comprises a vulnerability of the topology to an attack directed to one or more of the agents (Swiler, col. 3 lines 10 – 15, col.3 lines 25 – 33).

Kennedy focuses on discovering new routes and discovering new agents, along with making recommendations to improve the network, but makes no mention of constraining new agents with which relationships can be formed. Swiler, as noted above, does address system vulnerabilities, but not constraining new relationship choices.

Given that there are only two possible methods for agents to behave regarding how to manage new relationships, it would have been obvious to one of ordinary skill in the art at the time of the invention try both choices, thus enabling choosing either limiting relationship choices or not limiting relationship choices.

Therefore, Kennedy in view of Swiler disclose where the at least one recommendation does constrain the set of potential agents that an agent may select from to form a new relationship or relationships.

Kennedy in view of Swiler do not show where the topology then evolves towards a Gaussian type distribution.

Bettstetter shows evolving toward a Gaussian type distribution (Abstract, pg. 81, col. 2 P2) and discloses that a Gaussian/uniform random distribution is desirable to

avoid isolated nodes and to have a connected and thus reliable network (pg. 81, col.2 P2; pg. 82 col. 1 Section 4.1; pg. 83 col. 2 Section 4.2; Section 5.1; Section 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy in view of Swiler with that Bettstetter to help ensure the creation of an optimal topology (Bettstetter, Abstract).

20. Regarding claim 45, Kennedy in view of Swiler further show where the at least one criterion comprises a vulnerability of the topology to an attack directed to one or more of the software agents.

Kennedy focuses on discovering new routes and discovering new agents, along with making recommendations to improve the network, but makes no mention of constraining new agents with which relationships can be formed. Swiler, as noted above, does address system vulnerabilities, but not constraining new relationship choices.

Given that there are only two possible methods for agents to behave regarding how to manage new relationships, it would have been obvious to one of ordinary skill in the art at the time of the invention try both choices, thus enabling choosing either limiting relationship choices or not limiting relationship choices.

Therefore, Kennedy in view of Swiler disclose where the at least one recommendation does not constrain the set of potential agents that an agent may select from to form a new relationship or relationships, and Kennedy in view of Swiler disclose where the at least one recommendation does constrain the set of potential agents that an agent may select from to form a new relationship or relationships. It is inherent that if

the number of relationships with which an agent may form a new relationship is limited that such an agent will have comparatively few relationships.

Kennedy in view of Swiler do not show where the topology then evolves towards a Gaussian type distribution.

Bettstetter shows evolving toward a Gaussian type distribution (Abstract, pg. 81, col. 2 P2) and discloses that a Gaussian/uniform random distribution is desirable to avoid isolated nodes and to have a connected and thus reliable network (pg. 81, col.2 P2; pg. 82 col. 1 Section 4.1; pg. 83 col. 2 Section 4.2; Section 5.1; Section 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy in view of Swiler with that Bettstetter to help ensure the creation of an optimal topology (Bettstetter, Abstract).

21. Claims 10, 29 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Swiler and Bettstetter, as applied to claims 9 and 28 above, further in view of Brandt et al. (US 2004/0117624 A1), hereafter Brandt.

22. Regarding claims 10 and 29, Kennedy in view of Swiler and Bettstetter further show where the at least one criterion comprises a vulnerability of the topology to an attack directed to one or more of the agents (Swiler, col. 3 lines 10 – 15, col.3 lines 25 – 33).

Kennedy in view of Swiler and Bettstetter also disclose performing the above aspects of claim 45 such that the topology evolves towards a uniform random graph (Bettstetter, pg. 81, col.2 P2; pg. 82 col. 1 Section 4.1; pg. 83 col. 2 Section 4.2; Section 5.1; Section 7).

Kennedy in view of Swiler and Bettstetter do not explicitly show constraining the set of potential agents that an agent may select from.

Brandt shows removing suspicious computers from the network ([0047]), thus disclosing constraining the set of potential agents that an agent may select from.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy in view of Swiler and Bettstetter with that of Brandt in order to provide additional advanced methods for performing network security checks (Brandt, Abstract).

Regarding claim 45, Kennedy in view of Swiler, Bettstetter and Brandt further show where the at least one criterion comprises a vulnerability of the topology to an attack directed to one or more of the software agents (Swiler, col. 3 lines 10 – 15, col.3 lines 25 – 33).

Kennedy in view of Swiler and Bettstetter also disclose performing the above aspects of claim 45 such that the topology evolves towards a uniform random graph (Bettstetter, pg. 81, col.2 P2; pg. 82 col. 1 Section 4.1; pg. 83 col. 2 Section 4.2; Section 5.1; Section 7).

Kennedy in view of Swiler, Bettstetter and Brandt further disclose removing suspicious computers from the network ([0047]), thus disclosing constraining the set of potential agents that an agent may select from (Brandt, [0047]).

Therefore, Kennedy in view of Swiler, Bettstetter and Brandt disclose where the at least one recommendation does constrain the set of potential agents that an agent may select from to form a new relationship or relationships. It is inherent that if the

number of relationships with which an agent may form a new relationship is limited that such an agent will have comparatively few relationships.

Given that there are only two possible methods for agents to behave regarding how to manage new relationships, it would have been obvious to one of ordinary skill in the art at the time of the invention try both choices, thus enabling choosing either limiting relationship choices or not limiting relationship choices.

23. Claims 8, 20, 27, 38 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Stanforth et al. (US 2004/0081166 A1), hereafter Stanforth.

24. Regarding claims 8, 27 and 44, Kennedy discloses claim 1, 23 and 42.

Kennedy does not disclose where the at least one criterion comprises a rate at which agents form new relationships.

Stanforth shows where the at least one criterion comprises a rate at which agents form new relationships (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Stanforth in order to increase the level of control over the agents in the network, specifically the forming of relationships (Stanforth, Abstract).

25. Regarding claims 20 and 38, Kennedy in view of Stanforth further show where obtaining information and making at least one recommendation are performed by a topology tuner agent that monitors how frequently individual ones of the agents change their relationships, said topology tuner agent querying (Kennedy [0188-0203]) those

agents more frequently that more frequently change their relationships (specifically shown by Stanforth through showing changing the update rate based on relationship changes to save bandwidth and power ([0006-0009, 0015])).

26. Claims 11, 30 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Brandt and Albert et al. (Error and attack tolerance of complex networks), hereafter Albert.

Kennedy shows claim 1, including where the at least one criterion comprises a vulnerability of the topology to a failure of one or more of the agents ([0216,0217,0225]).

Kennedy does not show where the at least one recommendation constrains the set of potential agents that an agent may select from to form a new relationship or relationship such that the topology evolves towards a scale-free network.

Brandt shows where the at least one recommendation constrains the set of potential agents that an agent may select from to form a new relationship or relationships ([0047]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Brandt in order to provide additional advanced methods for performing network security checks (Brandt, Abstract).

Kennedy in view of Brandt do not show where, after set of potential agents that an agent may select from to form a new relationship or relationships is constrained, performing said constraining such that the topology evolves towards a scale-free network.

Albert shows where when connection choices are limited (which Brandt's recommendation constrains the set of potential agents that an agent may select from inherently results in doing), networks evolve to become highly connected and thus scale-free (pg. 379, col. 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy in view of Brandt with that of Albert in order to provide a better understanding for how limiting network choices will effect a networks characteristics.

27. Claims 12, 13, 14, 31, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Habetha (US 7,031,321 B2).

28. Regarding claims 12 and 31, Kennedy shows claims 1 and 23, including monitoring topology and the need for reconfiguration of topology due to node movement ([0004]) and to adapt to other changes ([0006]), thus showing monitoring the drift or re-self-organization of the topology.

Kennedy does not explicitly show where the at least one recommendation is made to compensate for the drift that has occurred over time.

Habetha shows periodically checking the actual network state to monitor for changes during operation, and updating the topology based on these changes (col. 1 line 15 – col. 2 line 35), thus showing monitoring over time and making at least one recommendation to compensate for changes over time.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Habetha in order to provide

for an improved method of monitoring a dynamic network and ensuring that network state records reflect actual network conditions (Habetha, Abstract).

Kennedy in view of Habetha thus show obtaining information comprises monitoring the drift or re-self-organization of the topology over time, and where the at least one recommendation is made to compensate for the drift.

29. Regarding claims 13 and 32, Kennedy in view of Habetha further show where obtaining information and making at least one recommendation are performed by a topology tuner agent that is recognized by the plurality of agents to have privileges giving it sufficient nominal authority to make its recommendations to the other agents effective, specifically where Kennedy shows a distributed system that tunes topology ([0004-0006,0039-0042,0051]), and Habetha shows using centralized controllers making network management decisions networks (Fig. 2, col. 1 lines 15 – 43, col. 2 lines 63 – 67, col. 3 lines 48 – 64). It is inherent that a central controller, as shown by Habetha, have privileges giving it sufficient nominal authority to make its recommendations to the other agents effective, as otherwise it would be inoperable due to its inability to control anything.

Kennedy in view of Habetha thus show where obtaining information and making at least one recommendation are performed by a topology tuner agent that is recognized by the plurality of agents to have privileges giving it sufficient nominal authority to make its recommendations to the other agents effective.

30. Regarding claims 14 and 33, Kennedy in view of Habetha further show where said topology tuner agent behaves otherwise as a peer agent that uses the same

system messaging infrastructure as the other agents (Kennedy, Figs. 1 and 2, [0026-0031,0033-0034,0166,0170,0172], specifically showing route maintenance/updating (topology tuning) taking place in normal peer agents, thus showing each peer agent also representing said topology tuner).

31. Claims 16 and 34 rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Liu et al. (US 7,184,421 B1), hereafter Liu.

Kennedy shows claims 1 and 23, including where making at least one recommendation is performed by a topology tuner agent (Kennedy, Figs. 1 and 2, [0026-0031,0033-0034,0166,0170,0172]).

Kennedy does not show using a single-cast technique to individually contact the agents.

Liu shows using a single-cast technique to individually contact the agents (Abstract, col. 1 lines 30 – 35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Liu in order to utilize an old and well known method of efficiently routing information directly between two computers.

32. Claims 17 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Goldman et al. (US 2003/0046583), hereafter Goldman.

Kennedy shows claims 1 and 23, including where obtaining gathers information concerning all relationships ([0141-0164]), and making at least one recommendation ([0033-0038, 0045-0047]).

Kennedy does not show where said at least one recommendation applies to all types of relationships between agents.

Goldman shows where at least one recommendation applies to all types of relationships between agents ([0032], specifically showing applying recommendations to allow or prohibit services to users both inside and outside of the network, which comprises all types of relationships).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Goldman in order to apply security goals across all areas of a network, improving the goal of maintaining network security (Goldman, Abstract).

33. Claims 18, 19, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Cain (US 6,697,325 B1).

34. Regarding claims 18 and 36, Kennedy shows claims 1 and 23.

Kennedy does not show where obtaining information gathers information concerning relationships of a certain type or types, and where the at least one recommendation applies only to the certain type or types of relationships between agents.

Cain shows where obtaining information gathers information concerning relationships of a certain type or types (Fig. 2; where the type is relationships between active and failed links), and where the at least one recommendation applies only to the certain type or types of relationships between agents (Fig. 2; recommending only nodes/agents involved with the failed link update their topology database).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Cain in order to minimize the overhead inherently involved in monitoring network traffic by minimizing the sources from which information is gathered and the sources to which recommendations are made.

35. Regarding claims 19 and 37, Kennedy in view of Cain further show where obtaining information and making at least one recommendation are performed in response to a notification of a change in the topology (Cain, Fig. 2, specifically showing where said recommendation is only performed after being informed of a link failure (which comprises said topology change)).

36. Claims 22 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Hanzlik et al. (US 2004/0044891 A1), hereafter Hanzlik.

Kennedy shows claims 1 and 23, including making at least one recommendation ([0033-0047]).

Kennedy does not show where the plurality of agents operate with a common set of system policies that are capable of being changed by a policy update procedure, and where making at least one recommendation is performed during a policy update procedure.

Hanzlik shows where the plurality of agents operate with a common set of system policies (Figs. 1A and 8A, [0030]) that are capable of being changed by a policy update procedure ([0048-0050]), and performing multiple tasks during a policy update procedure ([0048-0051]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Hanzlik in order to provide for a method maintaining a common set of network behavior, to, among other goals, help maintain system security and coherency (Hanzlik, Abstract).

Kennedy in view of Hanzlik thus show giving network recommendations (Kennedy [0033-0047]) and policy updates, where said policy updates can comprise multiple items sent during one update (Hanzlik [0048-0051]). It would have thus been obvious to one of ordinary skill in the art at the time of the invention that on of the multiple items sent during a policy update could be a recommendation, as minimizing the number of transmissions would have the obvious effect of improving network performance, as well as being an old and well known method in the art of optimizing network traffic.

37. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view Ikeda et al. (5,091,920), hereafter Ikeda.

Kennedy shows claims 23 and 24, including a threshold condition ([0211, 0215])

Kennedy does not show where said threshold condition is expressed as a variable threshold value.

Ikeda shows expressing a threshold condition is expressed as a variable threshold value (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Kennedy with that of Ikeda in order to utilize an method of making accurate comparisons (Ikeda, Abstract).

Response to Arguments

38. Regarding Applicant's arguments, filed 10/15/2007, Applicant first argues that the Kennedy reference 'is not a data processing system as set forth in claim 1.' However, as noted in the above rejection, the Kennedy reference clearly is a data processing system. Applicant's argument therefore is not persuasive.

39. Applicant continues by arguing Kennedy, stating 'there is nothing in the Kennedy patent publication that corresponds to the topology tuner agent as set for in claim 1...'. However, as cited, Fig. 3 as well as paragraphs 39-40,42,51 and 114-115, among others clearly show said topology tuner agent. For example, Kennedy's Abstract, further elaborated in said paragraphs states 'A method for operating the network includes discovering and using routes in the network, predicting route failure in the network, and performing route maintenance in the network based upon the predicted route failure.' Applicant's arguments therefore are not persuasive.

Applicant continues by stating that 'the Examiner notes that Kennedy does not show obtaining information from a topology tuner agent' in regards to the rejection made of claim 2. However, the current and previous Office Action to which Applicant is referring states that *Kennedy does not show where the step of obtaining information is performed by a topology tuner agent by querying a system registry to determine identities of individual ones of the plurality of agents*. This statement must be considered in full. Applicant's argument therefore is not persuasive.

40. Applicant continues by arguing claims 23 and 42, stating that they should be allowable for the reasons addressed above relating to claim 1. Applicant's argument is not persuasive.

41. Regarding claims 2, 3 and 4, Applicant argues that elements cited in the Assa reference 'do not perform the same active functions as the tuner agent set forth in claim 1 of the agent making the comparison and making at least one recommendation.' However, Assa was not cited to show 'the tuner agent set forth in claim 1 of the agent making the comparison and making at least one recommendation'. Therefore Applicant's argument is not persuasive.

42. Regarding claims 6, 9, 10, 25, 28, 29 and 44, Applicant argues that said claims should be allowable for the reasons given for allowing claim 1. However, given that claim 1 is not allowable, these claims are also not allowable.

43. Regarding claims 10, 29 and 45, Applicant argues that said claims should be allowable for the reasons given for allowing claim 1. However, given that claim 1 is not allowable, these claims are also not allowable.

44. Regarding claims 8, 20, 27, 38 and 44, Applicant argues that said claims should be allowable for the reasons given for allowing claim 1. However, given that claim 1 is not allowable, these claims are also not allowable.

45. Regarding claims 11, 30 and 46, Applicant argues that said claims should be allowable for the reasons given for allowing claim 1. However, given that claim 1 is not allowable, these claims are also not allowable.

46. Regarding claims 12, 13, 14, 31, 32 and 33, Applicant argues that said claims should be allowable for the reasons given for allowing claim 1. However, given that claim 1 is not allowable, these claims are also not allowable.

47. Regarding claims 16 and 34, Applicant argues that said claims should be allowable for the reasons given for allowing claim 1. However, given that claim 1 is not allowable, these claims are also not allowable.

48. Regarding claims 17 and 35, Applicant argues that said claims should be allowable for the reasons given for allowing claim 1. However, given that claim 1 is not allowable, these claims are also not allowable.

49. Regarding claims 18, 19, 36 and 37, Applicant argues that said claims should be allowable for the reasons given for allowing claim 1. However, given that claim 1 is not allowable, these claims are also not allowable.

50. Regarding claims 22 and 39, Applicant argues that said claims should be allowable for the reasons given for allowing claim 23. However, given that claim 23 is not allowable, these claims are also not allowable.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Frink whose telephone number is (571) 272-9686. The examiner can normally be reached on M-F 7:30AM - 5:00PM EST; off alternate Fridays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571)272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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